Annual Report of Operations for Year 2020

To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington

NPDES # for your Facility:
WAG - 130023

Facility & Owner Information

Facility Name: House of Salmon	
Operator Name (Permittee): Lower Elwha Klallam Tribe	
Address: 700 Stratton Road Port Angeles WA 98363	
Email: john.mahan@elwha.org	Phone: 360-565-7270
Owner Name (if different from operator):	
Email:	Phone:

Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ■ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ■ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.

The QA portion that was included in the BMP as a subsection was removed and is now a stand alone document. The BMP was modified to include details on Structural Maintenance, Training Requirements and Operational Requirements.

Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): 34,359 Pounds of food fed to fish during the maximum month: 6071.68

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

Species	Fish Produced	Receiving Water(s) to which Fish were Released	Month Released/ Spawned
Chum	124.2 lbs	Elwha River	April
Steelhead	10,506 lbs	Elwha River	April
Coho	23,728 lbs	Elwha River	April

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

Month	Total Fish (lbs)	Fish Feed (lbs)	Month	Total Fish (lbs)	Fish Feed (lbs)
January	23,913.8	2,887.9	July	7,522.8	1,210.9
February	26,481.8	3,923.6	August	10,881.4	1,540.6
March	34,869.9	6,071.7	September	13,998.8	1,797.9
April	37,584.9	1,956.5	October	16,914.1	3,138.3
May	4,189.1	1,016.6	November	19,462.9	2,875.7
June	5,301.6	1,384.3	December	23,306.3	3,409.3

Additional Comments:

Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed

Additional Comments:

Routine fish mortalities were disposed of daily in municipal waste.

Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish

Additional Comments:

No mass mortalities occurred.

Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

No non compliance events occurred.

Inspections & Repairs for Production & Wastewater Treatment Systems

Date Inspected	Date Repaired	Description of System Inspected and/or Repaired
Daily		The facility is inspected daily

Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year**.
Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
☐ Yes ☒ No	Azithromycin
☐ Yes ☒ No	Chloramine-T: ***See additional reporting requirements on page 7***
☐ Yes ☒ No	Chlorine
☐ Yes ☒ No	Draxxin
☐ Yes ☒ No	Erythromycin - injectable
☐ Yes ☒ No	Erythromycin - medicated feed
☐ Yes ☒ No	Florfenicol (Aquaflor)
☐ Yes ☒ No	Formalin - 37% formaldehyde: ***See additional reporting requirements on page 7***
☐ Yes ☒ No	Herbicide - describe:
☐ Yes ☒ No	Hormone - describe:
☐ Yes ☒ No	Hydrogen Peroxide: ***See additional reporting requirements on page 7***
☒ Yes ☐ No	Iodine: ***See additional reporting requirements on page 7***
☐ Yes ☒ No	Oxytetracycline
☐ Yes ☒ No	Potassium Permanganate: ***See additional reporting requirements on page 7***
☐ Yes ☒ No	Romet
☐ Yes ☒ No	SLICE (emamectin benzoate)
☒ Yes ☐ No	Sodium Chloride - salt
☐ Yes ☒ No	Vibrio vaccine
☐ Yes ☐ No	Other:
☐ Yes ☐ No	Other:

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Ovadine (iodophor)		Generic Name:	
Reason for use: required egg disinfection			
■ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment (specify units): 75 ml	Total quantity of formulated product used in past year (specify units): 4.3 gallons	
Date(s) of treatment: See ovadine treatment dates attached			Total number of treatments in past year: 217
Maximum daily volume of treated water: 91 gallons	Treatment concentration (specify units): 75 ppm	Duration and frequency of treatment(s): 1 hour once	
Method of application:	■ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ■ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Brand Name: Salt		Generic Name:	
Reason for use: bacterial pathogen, assist in osmoregulation			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment: 1,200 lbs	Total quantity of formulated product used in past year (specify units): 11,225	
Date(s) of treatment: See salt treatment dates attached			Total number of treatments in past year: 20
Maximum daily volume of treated water: 2,325,600 gallons	Treatment concentration (specify units): .103 pounds/gpm	Duration and frequency of treatment(s): 12 hours daily as needed (9 treatments)	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	■ Raceways ☐ Incubation building	■ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	■ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments Iodine	
Tank Volume	344.4 Liters
Desired Static Bath Treatment Concentration	75 ppm µg/L
Volume of Product Needed	2.625 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 1.09 ppm Active Ingredient: .109 ppm Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	5,342,400 gallons/day Specify Units
Maximum % of Facility Discharge Treated	.404 % of Total Discharge

Flow-Through Treatments Salt	
Tank Volume	639,881 Liters
Calculated Flow Rate	12,225.6 Liters/Minute
Duration of Treatment	720 Minutes
Desired Flow-Through Treatment Concentration of Product	.1 lb per gpm µg/L
Amount of Product to Add Initially	1,200 lb. Liters Product
Amount of Product to Add During Treatment	0 mL/Minute
Total Volume of Product Needed	1,200 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: .000143 lb./gpm Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	8,395,200 gallons Specify Units
Maximum % of Facility Discharge Treated	28 % of Total Discharge

Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.
No changes

Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

John Mahan	Hatchery Manager
Printed name of person signing	Title
	1-19-21
Applicant Signature	Date Signed

Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191

Washington Hatchery Annual Report

1200 Sixth Avenue, Suite 900

Seattle, WA 98101-3140

2020	Iodophor use dates
steelhead	4/22/2020
	4/29/2020
	4/30/2020
	5/6/2020
	5/12/2020
	5/13/2020
	5/18/2020
	5/26/2020
	5/28/2020
	5/29/2020
	6/2/2020
	6/4/2020
	6/5/2020
	6/8/2020
	6/10/2020
	6/17/2020
coho	11/4/2020
	11/10/2020
	11/18/2020
	11/24/2020
	12/2/2020
chum	11/4/2020
	11/6/2020
	11/10/2020
	11/16/2020
	11/24/2020

2020 Salt

Date	bags	weight (lbs)	cumulative (lbs)	units
6/11/2020	20	1,000	1,000	Pond 2
6/12/2020	20	1,000	2,000	Pond 2
6/16/2020	20	1,000	3,000	Pond 2
6/17/2020	20	1,000	4,000	Pond 2
6/18/2020	20	1,000	5,000	Pond 2
6/23/2020	24	1,200	6,200	Pond 2
6/24/2020	24	1,200	7,400	Pond 2
6/30/2020	24	1,200	8,600	Pond 2
7/7/2020	22	1,100	9,700	Pond 2
10/7/2020	1	25	9,725	T10
11/12/2020	6	300	10,025	RW 2,3
11/13/2020	6	300	10,325	RW 2,3
11/14/2020	6	300	10,625	RW 2,3
11/15/2020	6	300	10,925	RW 2,3
11/16/2020	6	300	11,225	RW 2,3

2020 iodophor max concentration

updated 1/11/21

	Number Spawn Days	Number of Incs Green Eggs
Steelhead	16	58
Coho	5	146
Chum	5	13
Total	26	217

3.785

ml iodophore/inc 75

total iodophor 16275 ml

16.275 L

4.299868 gallons

Max discharge	ml iodophor/inc	#incs discharging at once
	75	35

2625 ml

634,879.96000000 gallons in the system

0.69352708 gallons iodophore

1 to 915,436.43756191

ppm 1.09237513

10 % iodine 0.10923751 max concentration iodine ppm

Maximum % of discharge treated

15 gpm treated incubation water

3,710 gpm facility flow

5,342,400 gallon/day facility flow

0.404312668 Maximum % of discharge treated

inc volume 2.6 gallons

91 gallons water treated/ treatment

344.435 liters water treated/treatment

2020 Salt

Date	bags	weight	cumulative	units
6/11/2020	20	1,000	1,000	Pond 2
6/12/2020	20	1,000	2,000	Pond 2
6/16/2020	20	1,000	3,000	Pond 2
6/17/2020	20	1,000	4,000	Pond 2
6/18/2020	20	1,000	5,000	Pond 2
6/23/2020	24	1,200	6,200	Pond 2
6/24/2020	24	1,200	7,400	Pond 2
6/30/2020	24	1,200	8,600	Pond 2
7/7/2020	22	1,100	9,700	Pond 2
10/7/2020	1	25	9,725	T10
11/12/2020	6	300	10,025	RW 2,3
11/13/2020	6	300	10,325	RW 2,3
11/14/2020	6	300	10,625	RW 2,3
11/15/2020	6	300	10,925	RW 2,3
11/16/2020	6	300	11,225	RW 2,3

	Pond 2	
Tank Volume	169,057	gallons
Flow	3,230	gpm
Time	12	hours
facility flow	11,660	gpm
	16,790,400	
max daily volume of treated water	4,651,200	

Salt

Facility flow	11,660.00	gpm
Facility flow	16,790,400.00	gpd
Tank Volume L	639,880.75	
Unit Flow gpm	3,230.00	
Unit flow L/min	12,225.55	
Duration Min	720	
Concentration	0.102915952	pound per gpm
Amount added initially	1,200	pounds
Amount during treatment	0	ml/minute
Total product needed	1,200	pounds
Max effluent solution	0.000143	pounds/gallon water
Max daily volume of water treated	2,325,600.00	
Max effluent active ingredient	0.000143	
Minimum volume of total discharge	8,395,200.00	
Maximum % of facility discharge treated	28%	